



Consent Administrative Order

LIS No. 06-037

Closure Report Presentation

March 11, 2024

Presentation Topics

Description and map of the sewer collection system

A discussion of historic SSOs and their causes

Projects completed to address historic SSOs, I&I and resulting reductions

Areas with recurring SSOs

Short-term corrective actions planned to address recurring SSOs

Ongoing & future projects and programs to address recurring SSOs

SSOs initial and follow-up reporting to DEE

Summary

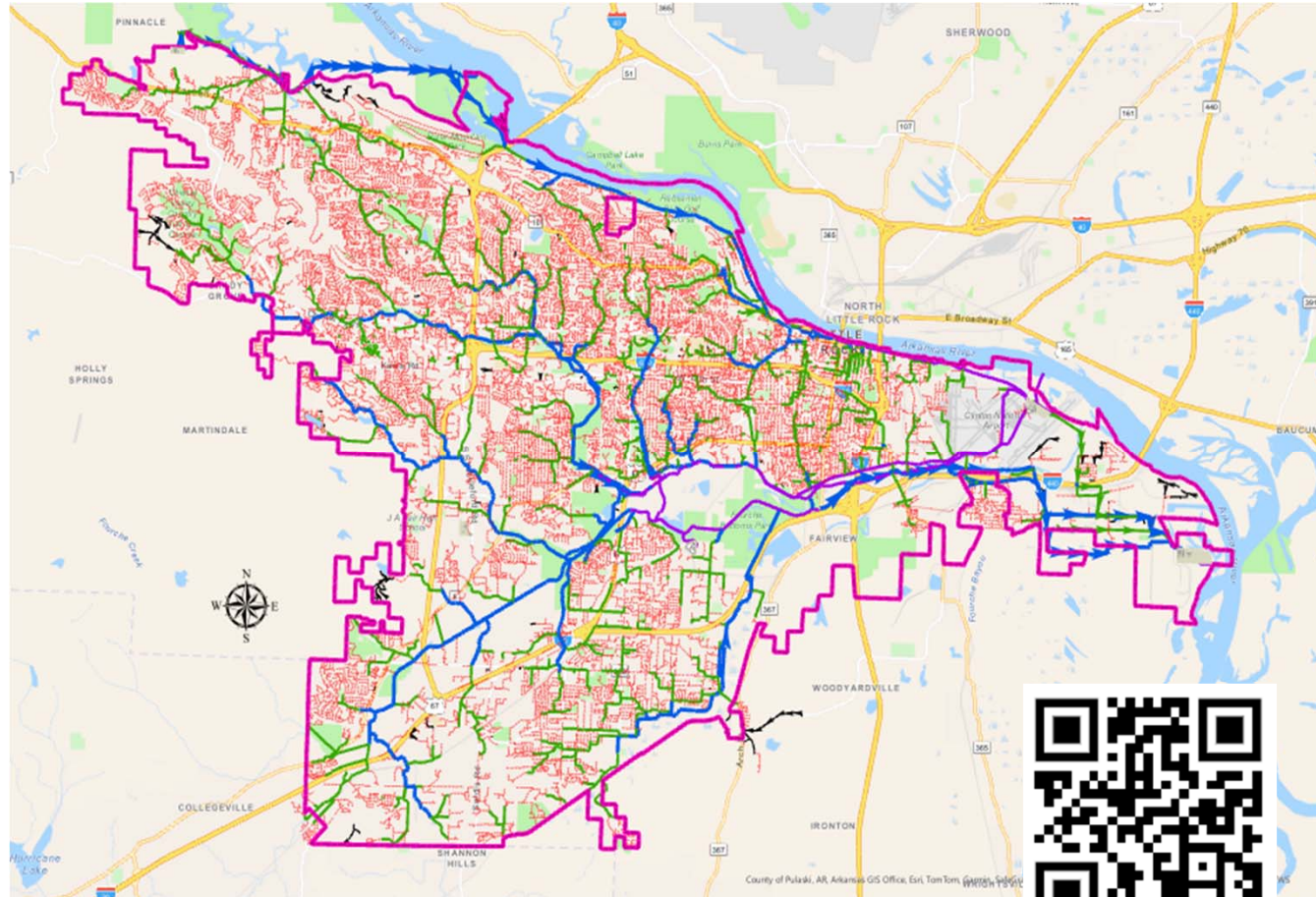
LRWRA Sewer Collection System

➤ Gravity System

- 38,745 manholes
- 12" & smaller = 1,163 miles
- 13" - 17" = 32 miles
- 18" & larger = 165 miles

➤ Force System

- 32 Pump Stations
- 2" - 48" = 66 miles



Question 2: A description and map of the collection system

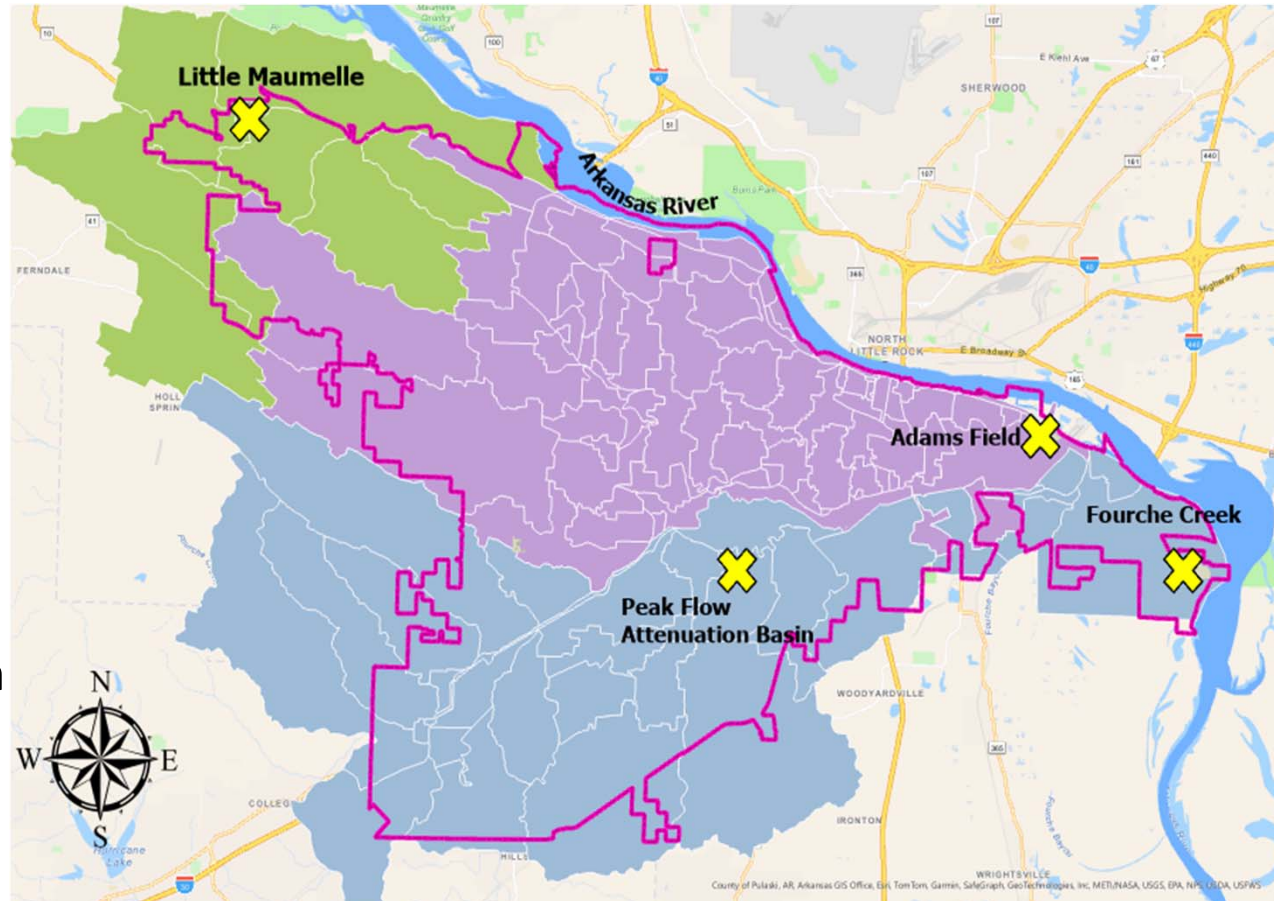
LRWRA Sewer Collection System

➤ Water Reclamation Facilities Hydraulic Capacity

- Adams Field - 94 MGD
- Fourche Creek - 48 MGD
- Little Maumelle - 12 MGD

➤ Storage Facilities

- Scott Hamilton Peak Flow Attenuation Basin - 61 MG
- Adams Field Peak Flow Basin - 13 MG



Sanitary Sewer Overflow History

LRWRA Inhouse Engineering efforts to mitigate SSOs

Sierra Club reaches settlement following SECAP

DEQ and LRWRA enter CAO

SECAP Update

SECAP Update Amendment No.2

1980

2000

2001

2002

2006

2009

2010

2016

2019

2023

Sierra Club files action over SSOs

LRWRC adopts SECAP

LRWRA achieved compliance with CAO's dry weather requirements

SECAP Update Amendment No.1

LRWRA Submits CAO Closure Report to DEQ

General Requirements of the CAO

LRWRA ordered to develop a Collection System Management Program that complies with and maintains these general standards:

- Properly manage, operate and maintain all parts of the LRWRA Collection System
- Take all feasible steps to stop, and mitigate the impact of non-wet weather related SSOs
- Provide adequate capacity to convey base flows and peak flows in accordance with the SECAP already submitted and approved by the Department (then DEQ)
- Provide notification to parties with a reasonable potential for exposure to SSOs



□ Properly manage, operate and maintain all parts of the LRWRA Collection System

- q Geographic Information System (PAGIS member since 1988)
- q Developed a Collection System Management Plan _ submitted to the Department in 2007.
 - o Identified and listed key components of the Sanitary Sewer System
 - o Established key personnel and internal departments responsible for the maintenance of various components.
- q Procured/Implemented Computerized Maintenance Management System
 - o Tie maintenance activities to assets
 - o Create historical records of maintenance
 - o Help drive rehabilitation/repair decisions.

Mitigating Dry Weather SSOs & Achievements

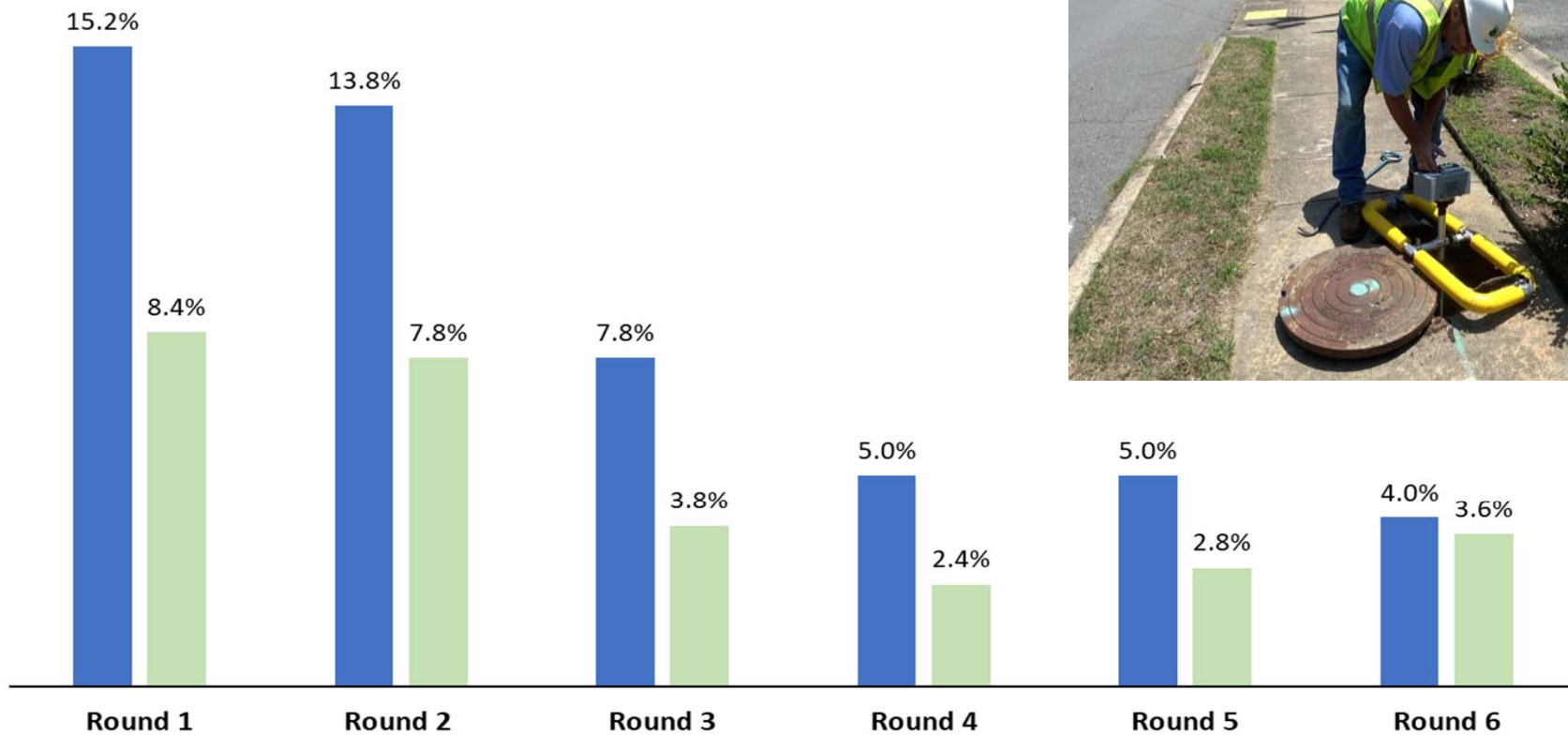


Acoustic Inspection Program

Dry Weather

Acoustic Inspection-driven Maintenance

■ Cleaning ■ CCTV



Chemical Root Treatment Program

Dry Weather



- Identified approx. 45,000 LF subject to heavy root intrusion & growth
- Since 2007 – contracted chemical root control
 - Eliminates roots & reduce re-growth
 - No damage to above-ground vegetation
- Crucial to restoring the capacity of the sewer mains
- Progressive replacement of these mains, where practical

FOG Program

Dry Weather

- Initiated in 2000
- Reimagined in 2020 - collaborative partnership with restaurants and haulers
- 2020-2023
 - 11.9 MG of grease removed
 - 8,289 grease pump-outs
 - 5,234 inspections
 - 898 food service establishments reporting
 - 94.5% compliance rate
 - No. 1 compliance rate in US with Swift Comply



Public Education and Outreach

Dry Weather



- Increase public awareness about grease on sewer system
- Decrease grease related SSOs
- 105,000 cans distributed since June 2002

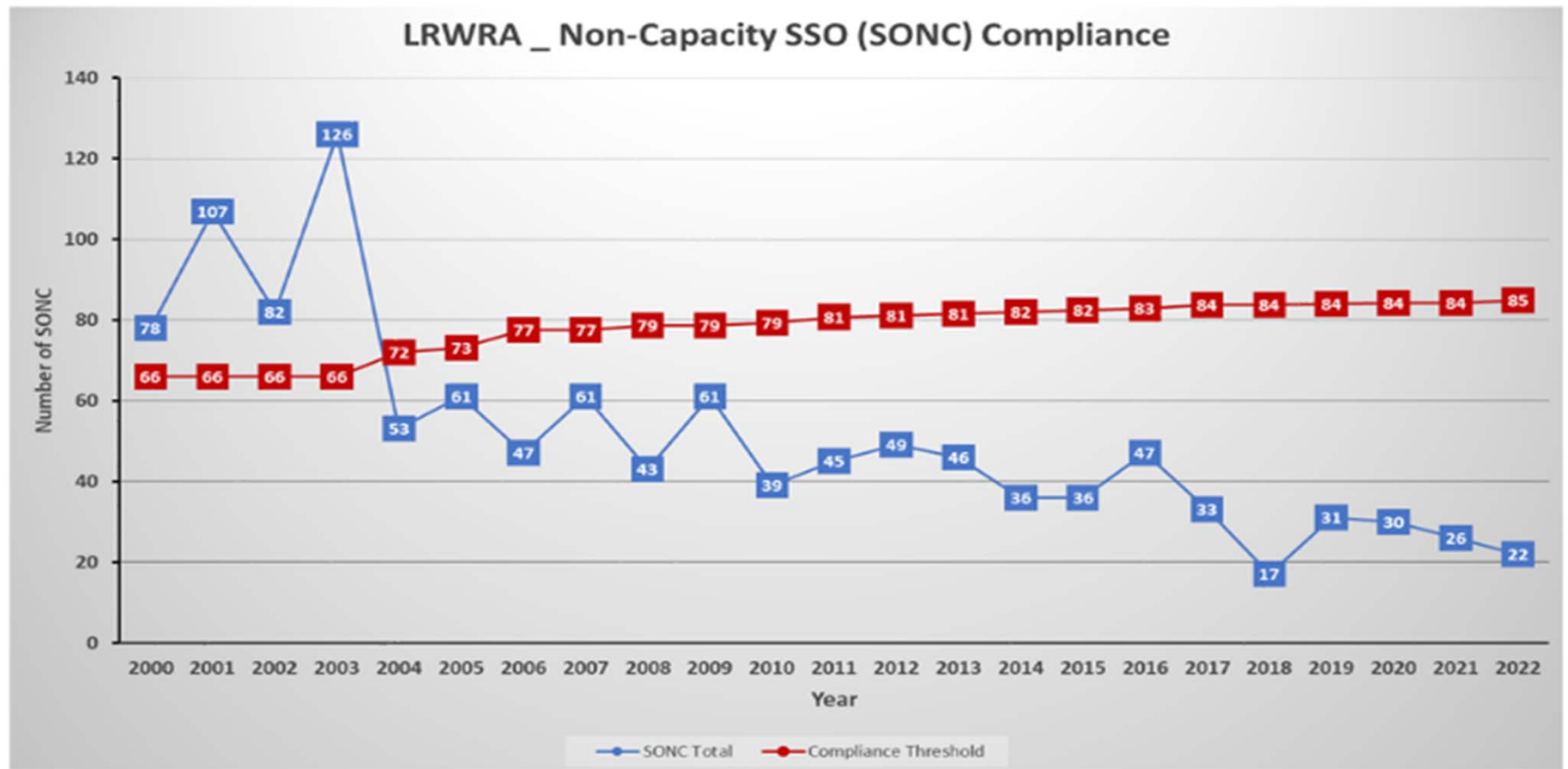


- Increase public awareness of what not to flush
- Decrease SSOs and costly repairs caused by clogs and backups from unflushable items



- Provides and installs replacement caps free
- Prevent rainwater from entering sewer system
- Keep debris, rodents, small animals out of service lines
- 125 replacements since 2017

Dry Weather SSO Reduction Results Achieved

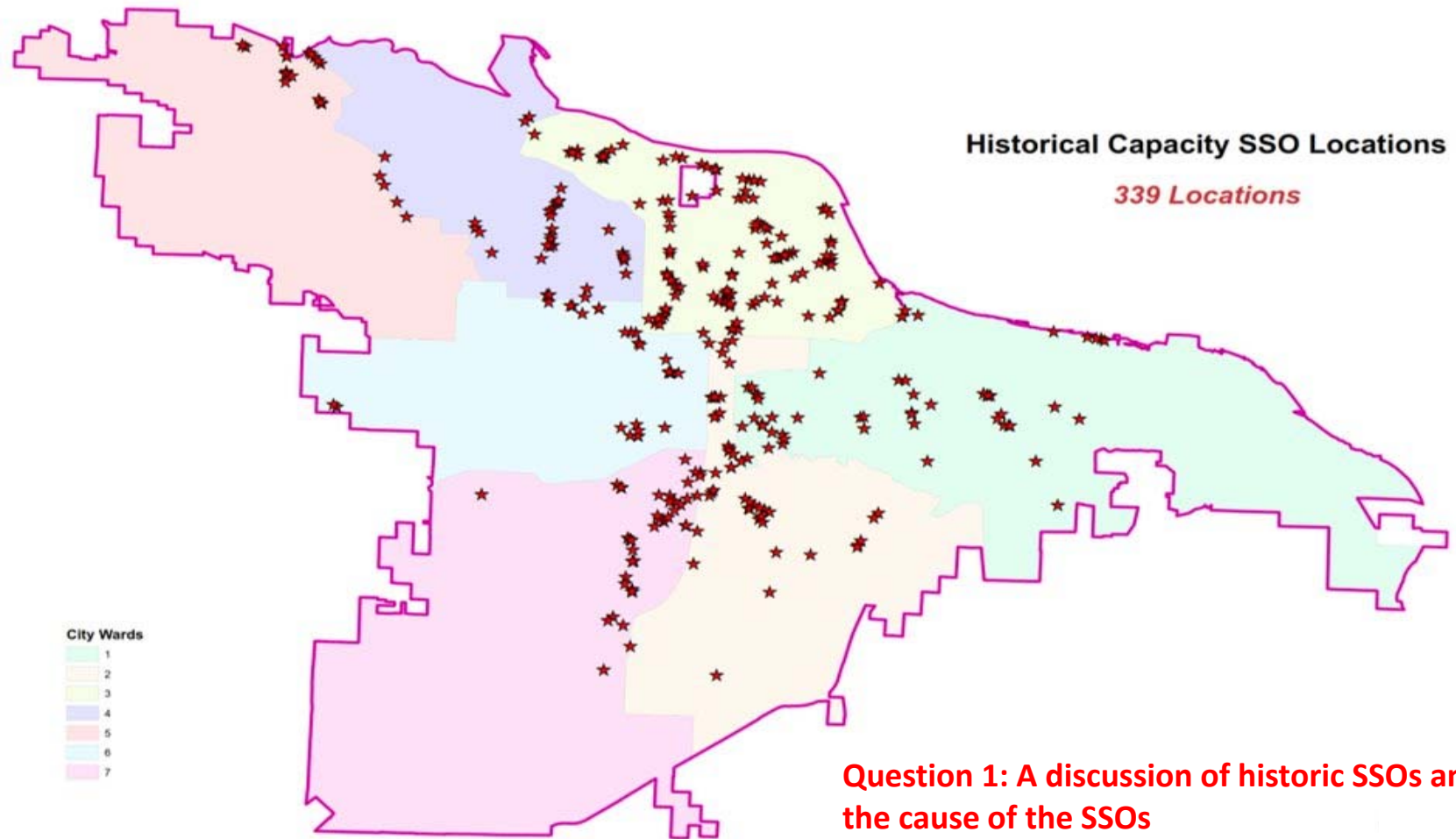


- Allow 6 Non-Capacity SSOs per 100 miles of sewer system
- Compliance report submitted in January 2009

Mitigating Wet Weather SSOs & Achievements



Historic SSOs & Related Causes



Wet Weather SSO Reduction Results Achieved

- Increase capacity at water reclamation facilities and pump stations
- Install storage capacity in Collection System and water reclamation facilities
- I&I reduction throughout Collection System



Little Maumelle Water Reclamation Facility

- 2008 - \$88.8M
- Design Capacity: 4 MGD
- Peak Capacity: 12 MGD
- Complete Automation

Adams Field WRF Parallel Treatment

- 2022 - \$38.7M
- Increased peak wet-weather capacity from 60 MGD to 94 MGD





Scott Hamilton Peak Flow Attenuation Facility

- 2019 - \$23M
- Peak flow basins provide 61 MG of storage

36th Street to Mabelvale Pike Outfall

- 2020 - \$15.4M
- 2.5 miles of 42" and 54" gravity sewer main installation
- 4 sewer junction and diversion structures





FCWRF Hydraulic Upgrade

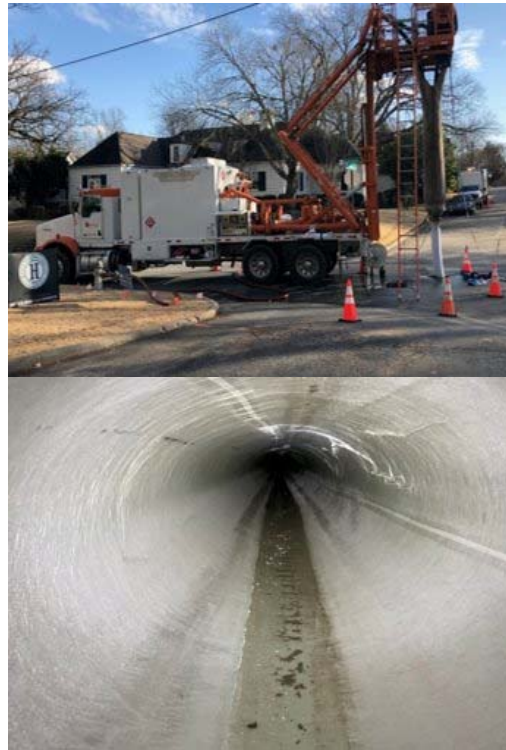
- 2020 - \$30.7M
- Peak Capacity from 36 MGD to 48 MGD

I&I Reduction Program

2020 – 2024 - \$40.1M



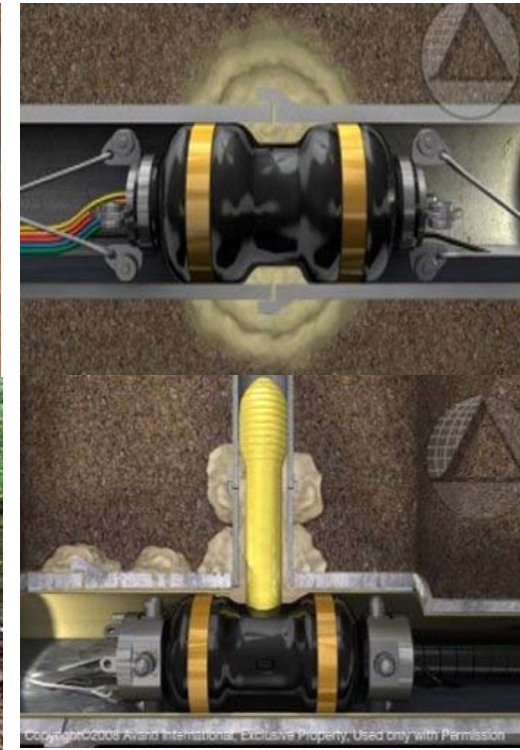
Pipe Bursting



Cured in Place Pipe (CIPP)



Manhole Rehab



Test and Seal (Grouting)

Question 3: The projects LRWRA has completed to address the historic SSOs and I&I and the resulting reductions in SSOs and I&I that were achieved through those projects

Sewer Service Line Replacement Program

Wet Weather

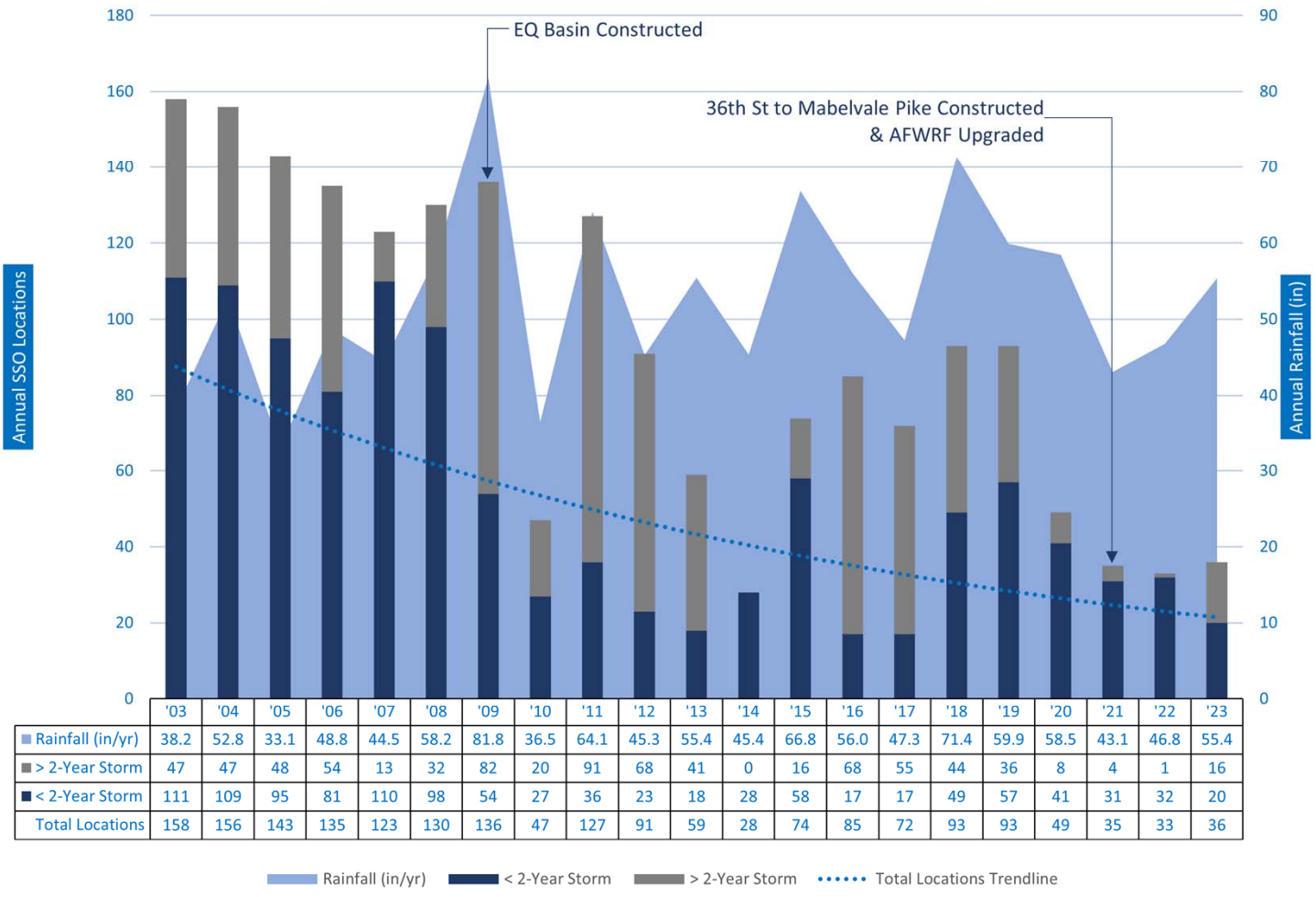
- **Program Created in 2013**
 - To encourage the replacement of older sewer service lines (sources of I&I)
 - Provides \$2,500 reimbursement for replacement of eligible service lines to domestic customers
 - 40% of I&I comes from private sources
- **Since Inception**
 - \$9.2M reimbursed to 3,700 customers
 - Approx. 42 miles of service lines replaced



Pisces Award for Innovation



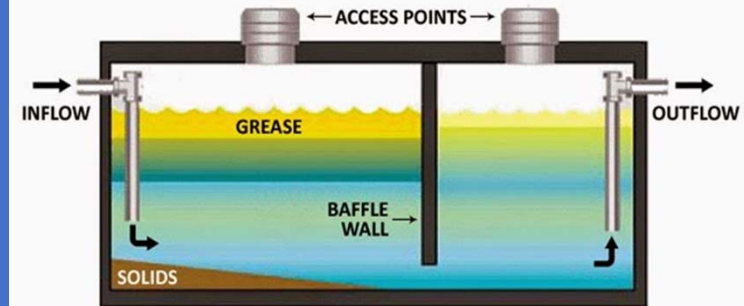
LRWRA Progress in Eliminating Sanitary Sewer Overflows



Current & Future Programs & Projects to Address Recurring SSOs



Ongoing Preventive Maintenance

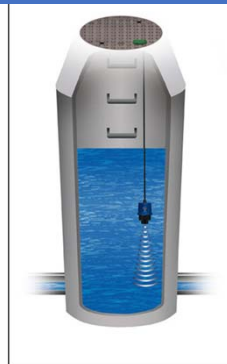


Chemical Root Treatment

FOG Program



Acoustic Inspection –
Cleaning – CCTV - Repairs

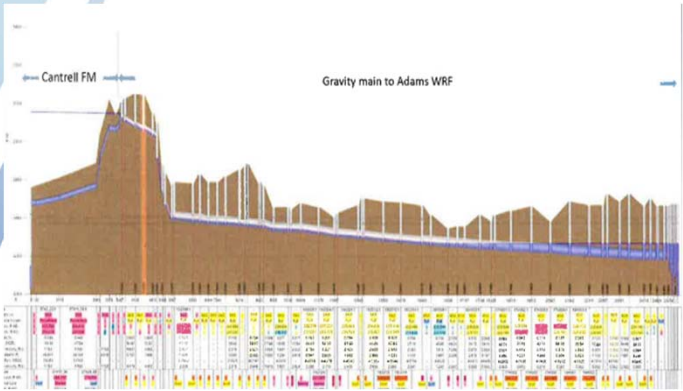


Early SSO detection with expansion of remote sensing & monitoring capability

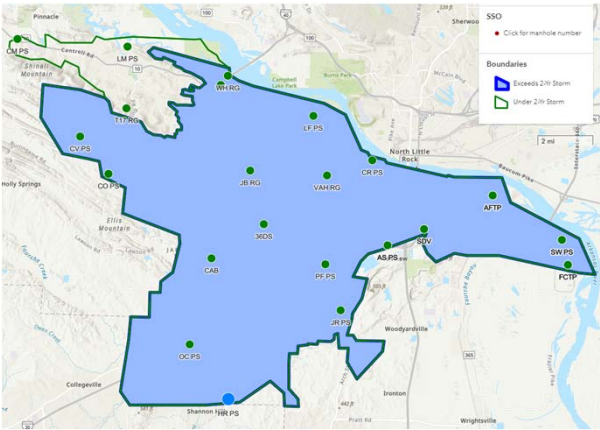
Question 6: LRWRA's future projects and plans to address recurring SSOs in the collection system

Maintaining System Capacity

Wet Weather



Continuous Updates to Sewer Hydraulic Model



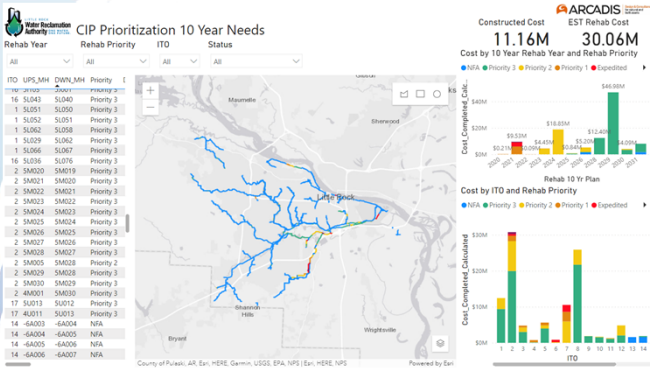
Rainfall Dashboard



I&I Reduction Program

Maintaining System Capacity

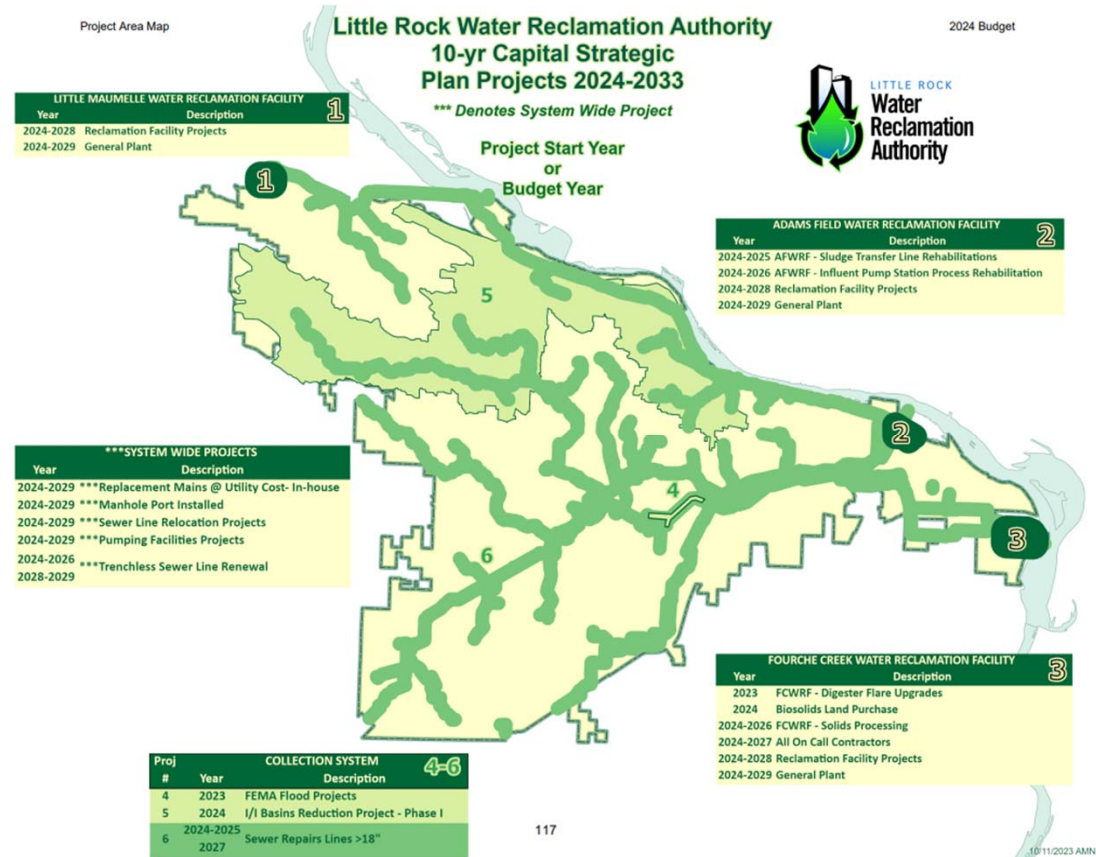
Wet Weather



Large Diameter Inspection & Repair Dashboard



Robust Asset-Management & System Reliability Approach



10-Year Capital Improvement Plan

LRWRA's Process for Reporting SSOs

Collection System staff report SSOs via 24-hr online reporting form

Collection System staff report SSO 5-day follow up report

Environmental Affairs staff generate SSO report for DMR

Collection System staff compare DMR SSO report to internal and DEQ reports

Environmental Affairs prepares DMR for submittal

Operations signs and submits DMR

Question 7: LRWRA's process for initial reporting and follow-up reporting, when required, for SSOs

Summary



1. **LRWRA's Financial Transformation**
 - **Substantial Revenue & Debt burden increases**
2. **LRWRA's Operational Transformation**
 - **Dry weather SSOs objectives met**
 - **No longer 339 wet weather SSO locations**
 - **Collection system & Reclamation facilities overhauled**
 - **Perpetual focus on collection system, SSOs & sewer system**
3. **LRWRA's Organizational Transformation**
 - **Staffing**
 - **Community & Resident education**
 - **Resident resources & programs**
4. **20+ years of work / \$500M spent / Fulfilled CAO's requirements**
5. **Set standard for how Collection System should be maintained**

QUESTIONS?